

**REMARKS**

Claims 1-29, 31-32, 34-35, 37-43, and 67 are pending in this application.

**Examiner's Interview of July 25, 2008**

Applicant thanks the Examiner for the courtesy of the telephonic interview of August 1, 2008 (hereinafter the "interview"). Examiner Gitomer and Applicant's representative, Brian Ho, were present for the interview. All claims were discussed generally in the interview with respect to the Final Office Action of May 16, 2008. The Applicant's representative briefly discussed the Applicant's plans to file a Request for Continued Examination with a response to the Final Office Action which is presented below. After examination of the response, the Examiner agreed to further discuss the claims with the Applicant and Applicant's representative in a future interview if the response does not satisfactorily address the outstanding rejections.

**Claim Rejections – 35 U.S.C. § 102(b)**

Rittenberg *et al.* (J. of Biol. Chem., 1936, v113, p. 505-510); Rittenberg *et al.* (J. of Biol. Chem., 1937, v117, p. 485-490); and Rittenberg *et al.* (J. of Biol. Chem., 1937, v120, p. 503-510) (hereinafter "each of Rittenberg")

Claims 1, 4-13, 18-24, 28-32 are rejected under 35 U.S.C. § 102(b) as being anticipated by each of Rittenberg. Applicant respectfully traverses the rejection and its supporting remarks.

To anticipate a claim, a cited reference must teach every element of the claim. *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631 (Fed. Cir. 1987); MPEP § 2131. Rittenberg *et al.* do not teach detecting an abundance of one or more mass isotopomers of <sup>2</sup>H-labeled water, and applying combinatorial analysis to determine the metabolism of one or more sugars or fatty acids in an individual as presently claimed. The Examiner stated in the Office Action of May 16, 2008 that "all the Rittenberg references teach determining labeled water." Applicant respectfully asserts that each of Rittenberg do not teach determining labeled water by "detecting an abundance

of one or more mass isotopomers of 2H-labeled water” as required by the claims. A discussion on the meaning of “one or more mass isotopomers of 2H-labeled water” is presented below under the 35 U.S.C. § 112 – Second Paragraph section. The Examiner also stated in the same Office Action that “regarding applying combinatorial analysis, the Rittenberg references analyze the results and to apply any known method of such analysis would have been obvious.” Applicant respectfully maintain that each of Rittenberg do not teach applying combinatorial analysis to determine the metabolism of one or more sugars or fatty acids in an individual as required by the claims. Because limitations of the claims are missing in each of Rittenberg and obviousness is not a basis for a rejection under 35 U.S.C. § 102(b), such a rejection is improper.

Applicant respectfully requests that this basis for rejection be withdrawn.

#### **Claim Rejections – 35 U.S.C. § 103(a)**

Rittenberg et al. (J. of Biol. Chem., 1936, v113, p. 505-510); Rittenberg et al. (J. of Biol. Chem., 1937, v117, p. 485-490); and Rittenberg et al. (J. of Biol. Chem., 1937, v120, p. 503-510) in view of Jones et al. (Am. J. Physiol. Endocrinol. Metab., 2001); (hereinafter “each of Rittenberg in view of Jones”)

Claims 1-29, 31, 32, 34, 35, 37-43, and 67 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of each Rittenberg in view of Jones. Applicant respectfully traverses the rejection and its supporting remarks.

For the reasons stated above, each of Rittenberg do not teach or suggest all limitations of what is presently claimed. The addition of the Jones *et al.* reference does not resolve the deficiencies of each of Rittenberg discussed above as they do not teach detecting an abundance of one or more mass isotopomers of <sup>2</sup>H-labeled water, and they do not teach applying combinatorial analysis to determine the metabolism of one or more sugars or fatty acids in an individual. Therefore, it would not be obvious from the cited references to determine *in vivo* metabolism of one or more sugars or fatty acids in an individual using the steps of the presently claimed methods.

Applicant respectfully requests that this basis for rejection be withdrawn.

**Claim Rejections – 35 U.S.C. § 112 – Second Paragraph**

Claims 1-29, 31-32, 34, 35, 37-43, and 67 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Applicant respectfully traverses the rejection and its supporting remarks.

In the Office Action of May 16, 2008, the Examiner stated that “the addition to the claims of ‘one or more mass isotopomers of 2H labeled water’ is not understood. Isotopomers or isotopic isomers is taken to mean isomer having the same number of isotopic atom but differing in their positions. But in deuterium labeled water, the position of the heavy hydrogen does not differ.” Applicant disagrees with the Examiners statements. On page 9, lines 16-18, “isotopomers” are defined as “isotopic isomers or species that have identical elemental compositions but are constitutionally and/or stereochemically isomeric because of isotopic substitution, as for CH<sub>3</sub>NH<sub>2</sub>, CH<sub>3</sub>NHD and CH<sub>2</sub>DNH<sub>2</sub>.” According to this definition, isotopomers of 2H labeled water would include HDO and DDO. Furthermore, on page 9, lines 26-30 to page 10, lines 1-15 “mass isotopomer” is defined as “a family of isotopic isomers that are grouped on the basis of nominal mass rather than isotopic composition. A mass isotopomer may comprise molecules of different isotopic compositions, unlike an isotopologue (e.g. CH<sub>3</sub>NHD, <sup>13</sup>CH<sub>3</sub>NH<sub>2</sub>, CH<sub>3</sub><sup>15</sup>NH<sub>2</sub> are part of the same mass isotopomer but are different isotopologues).” According to this definition, HDO and DDO are different mass isotopomers since their nominal mass is different and would be resolved by a mass spectrometer. By way of illustration, HDO and HH<sup>17</sup>O would be the same mass isotopomer since their nominal mass is the same and would not be resolved by a mass spectrometer.

Additionally, in the same Office Action, the Examiner stated that “in new claim 67 the ‘combinatorial analysis’ lacks antecedent basis.” Applicant respectfully disagrees. Claim 67 depends from claim 1, and antecedent basis for “combinatorial analysis” in claim 67 may be found in step (d) of claim 1.

In light of the arguments presented above, Applicant respectfully requests that this basis for rejection be withdrawn.

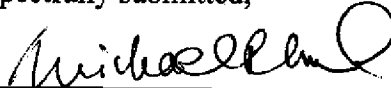
**CONCLUSION**

In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to withdraw the outstanding rejection of the claims and to pass this application to issue. If it is determined that a telephone conference would expedite the prosecution of this application, the Examiner is invited to telephone the undersigned at the number given below.

In the event the U.S. Patent and Trademark Office determines that an extension and/or other relief is required, applicant petitions for any required relief including extensions of time and authorizes the Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to **Deposit Account No.: 03-1952** referencing **Docket No.: 416272005200**. However, the Commissioner is not authorized to charge the cost of the issue fee to the Deposit Account.

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Respectfully submitted,

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